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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,665	09/07/2006	Jan Bertus Marten Warntjes	PHNLO40245US	8663
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EXAMINER FETZNER, TIFFANY A				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/598,665

Applicant(s)WARNTJES, JAN BERTUS
MARTEN**Examiner**

Tiffany A. Fetzner

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-13 and 15-21 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 07 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED Final ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Canceled claim

2. **Claim 14** is canceled as per applicants' **June 30, 2008** amendment/response.

Information Disclosure Statement

3. The information disclosure statement(s) (IDS)'s submitted on **9/7/2006** is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statements. The initialed and dated information disclosure statement(s) (IDS)'s submitted on **9/7/2006** was previously attached to the Office action of October 9th 2007.

Response to Arguments

4. Applicant's arguments with respect to claims 1-11 from the January 3rd 2008 amendment and response have been considered but are moot in view of the new ground(s) of rejection.
5. Applicant's arguments with respect to claims 1-18 from the June 30th 2008 amendment and response have been considered but are not persuasive because prior or a record does show the limitations were cited in the claims, as well as the limitations added by the June 30, 2008 amendment / response. Additional detailed citations identifying the applicants set forth claim limitations have been provided as per applicant's request in the June 30, 2008 amendment/response.

Typographic error in name of Applied prior art from the last office action

6. The Examiner notes that in the last office action the applied prior art of **Kellman et al.**, US patent 7,154,268 B2 issued Dec, 26th 2006, with an effective US priority date of **October 19th 2001** was mistakenly identified as **Kellerman et al.**, as opposed to **Kellman et al.**, however, the US patent number and the effective priority date was and is still accurate. The Examiner has corrected the typographical error in this response. The Examiner notes that US patent 7,154,268 B2 is still the same prior art of record being applied, therefore a final rejection is proper.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1-13, 15-18 and new claims 19-21 are finally rejected under 35 U.S.C. 102(e) as being anticipated by Kellman et al., US patent 7,154,268 B2 issued Dec, 26th 2006, with an effective US priority date of October 19th 2001.**

9. With respect to **Claim 1, Kellman et al.**, teaches and shows "A method for generating magnetic resonance images using a magnetic resonance apparatus [See figures 1-5, abstract] :the method comprising the steps: acquiring a reference scan," [See **col. 5 lines 41-47**] "providing the magnetic resonance apparatus with a *target value* of a specific scan parameter: [See **col. 2 lines 56-58 where a target level of alias suppression is taught / provided**; the Examiner notes that this is one example of a target value of a specific scan parameter within the **Kellman et al.**, reference because a target level and a target value are considered to be synonymous and equivalent terms in this context of the **Kellman et al.**, specification by the Examiner. See also the teachings of col. 4 line 41 through col. 10 line 31, for other examples of desired (target level / target amount/ and target element values) used in determining and optimizing the utilized parameters and trade-offs of the MRI system throughout the Kellman specification] Additionally Kellman et al., teaches "determining, by the magnetic resonance apparatus and based on reference scan data, [See the reference scan of **col. 5 lines 41-47,**] an optimum scan parameter set (i.e. such as an **optimized regularization matrix**) according to the target value (i.e. the **target level**) "of the specific scan parameter." (i.e. such as the **alias ghost suppression**) [See **col. 6 line 43 through col. 7 line 4** is one example of this teaching. See also column 7 line 5

through column 10 line 31 where the target level is applied to individual pixels and optimization of the calculation parameters is carried out.]

10. With respect to **Claim 2, Kellman et al.**, teaches "the reference scan data include sensitivity data for each coil element of the magnetic resonance apparatus for each voxel. [See col. 4 line 41 through col. 10 line 31 where values for pixels and/or voxels are determined. Specifically see col. 6 line 43 through col. 8 line 10.] The same reasons for rejection, which apply to **claim 1** also apply to **claim 2** and need not be reiterated.

11. With respect to **Claim 3, Kellman et al.**, teaches and shows "the optimum scan parameter set is determined for a defined region of interest" [See the defined FOV, of figures 1-3, col. 5 line 41 through col. 10 line 31]. The same reasons for rejection, which apply to **claim 1** also apply to **claim 3** and need not be reiterated.

12. With respect to **Claim 4, Kellman et al.**, teaches and shows teaches the specific scan parameter" may be "the scan time" from col. 1 line 55 through col. 2 line 15.] The same reasons for rejection, which apply to **claim 1** also apply to **claim 4** and need not be reiterated.

13. With respect to **Claim 5, Kellman et al.**, teaches the specific scan parameter" may be "the signal-to-noise ratio" because he specifically accounts for SNR [See col. 7 line 28 through col. 9 line 22]. The same reasons for rejection, which apply to **claim 1** also apply to **claim 5** and need not be reiterated.

14. With respect to **Claim 6, Kellman et al.**, teaches "determining the image noise for a number of predetermined scan parameter sets" [See col. 7 lines 28-32]. The same reasons for rejection, which apply to **claim 1** also apply to **claim 6** and need not be reiterated.

15. With respect to **Claim 7, Kellman et al.**, shows "different orientations of the phase encode direction." [See figures 2, 3] The same reasons for rejection, which apply to **claims 1, 6** also apply to **claim 7** and need not be reiterated.

16. With respect to **Claim 8, Kellman et al.**, teaches "sets with different RFOV" [See col. 3 line 60 through col. 9 line 21]. The same reasons for rejection, which apply to **claims 1, 6** also apply to **claim 8** and need not be reiterated.

17. With respect to **Claim 9, Kellman et al.**, teaches “automatically performing a scan using the determined optimum scan parameter set.” [See col. 5 line 48 through col. 10 line 31.] The same reasons for rejection, which apply to **claims 1** also apply to **claim 9** and need not be reiterated.

18. With respect to **amended Claim 10, Kellman et al.**, teaches and shows “An apparatus for generating magnetic resonance images” [See figure 5] comprising: an acquisition device which acquires a reference scan [See **col. 5 lines 41-47**], an operating device which provides a target value of a specific scan parameter [see figures 2, 5], “and a control device” [See figure 5 column 9 line 22 through column 10 line 31] which determines, based on reference scan data, an optimum one or more of a plurality of scan parameter sets which meets the target value of the specific scan parameter.” (i.e. such as **the alias ghost suppression**) and optimizes a second scan parameter.” [See figure 5, col. 9 line 22 through col. 10 line 31, in combination with the teachings of column 2 line 56 through column 9 line 21. The Examiner notes that an example of the second parameter from the **Kellman** specification teachings is sensitivity or noise etc.,] The same reasons for rejection, which apply to **claims 1**, also apply to **claim 10** and need not be reiterated.

19. With respect to **Claim 11, Kellman et al.**, teaches “A computer program for generating magnetic resonance images using a magnetic resonance apparatus comprising: computer instructions to control a computer to perform the method as claimed in **claim 1**. [See figure 5 col. 9 line 22 through col. 10 line 31.] The same reasons for rejection, which apply to **claims 1**, also apply to **claim 11** and need not be reiterated.

20. With respect to **Amended Claim 12, Kellman et al.**, teaches “A magnetic resonance imaging method comprising: selecting a target value for one of a signal-to-noise ratio” [See col. 7 line 1 through col. 10 line 31, specifically see column 7 lines 24 through 32] and a scan time;” [See col. 1 line 56 through col. 2 line 35] “analyzing a reference scan” [See **col. 5 line 39 through col. 8 line 36** and col. 2 lines 56-58, with respect to the reference scan and the analysis the reference scan provides to other

variables;]" to determine which of a plurality of sets of scan parameters (I) meet the selected one of the signal-to-noise ratio "target value" [See **col. 7 lines 24-55** and **col. 8 line 56 through col. 9 line 22**] "and the scan time target value" [See col. 1 line 56 through col. 2 line 35] "(2) optimize the other of the signal-to-noise ratio and the scan time, namely, maximize in the case of the signal-to-noise ratio or minimize in the case of the scan time." (i.e. "scan time" is considered to be a synonymous equivalent of the time required to perform the volume imaging). [See col. 1 line 56 through col. 2 line 35; col. 4 line 24 through col. 10 line 31 with respect to the trade-offs of one variable to optimize another.]

21. With respect to **Claim 13, Kellman et al.**, teaches "defining a region of interest" (i.e. a field of view) and wherein the plurality of sets of scan parameters include both (1) subsets of scan parameters for performing intrinsic foldover imaging techniques in which foldover signals fall outside the region of interest," [See col. 1 lines 38-48, col. 2 lines 56-58, See col. 3 line 42 through col. 10 line 31. The initial "foldover" discussion starts in col. 4 line 2, but the ghosting referred to in the **Kellman et al.**, reference but this is also referred to as "ghosting" throughout the **Kellman et al.**, reference.] "and (2) subsets of scan parameters for performing sensitivity encoding imaging techniques with a field of view that encompasses a size of a subject and contains the defined region of interest." [See col. 1 lines 38-col. 10 line 31 as imaging the FOV is taught throughout the reference.] The same reasons for rejection, which apply to **claim 12** also apply to **claim 13** and need not be reiterated.

22. With respect to corresponding **Claim 15** which respectively depends from **claim 12; Kellman et al.**, teaches "the subsets of scan parameters include scan parameter sets that describe a plurality of different phase encoding directions. [See col. 1 line 39 through col. 2 line 35 with col. 6 line 53 through col. 9 line 15 where the phase and signal information is encoded at least in the x, and y directions.] The same reasons for rejection, which apply to **claims 1, 12** also apply to **claim 15** and need not be reiterated.

23. With respect to **amended Claim 16, Kellman et al.**, teaches "**one of:** automatically conducting a magnetic resonance imaging scan using the determined set

of scan parameters which meets the selected one of the signal-to- noise and the scan time target value and which optimizes the other one of the signal-to-noise, and the scan time target value;" [See **column 7 lines 28-32 along with** col. 2 line 14 through col. 10 line 31 in general] "and, presents a display for operator selection of sets of scan parameters that meet the selected target value and optimize the other as the signal-to-noise ratio and the scan time." [See **column 1 line 56 through column 2 line 35** in combination with col. 7 line 24 through col. 10 line 31. (i.e. "scan time" is considered to be a synonymous equivalent of the time required to perform the volume imaging).] The same reasons for rejection, which apply to **claims 12, 1** also apply to **claim 16** and need not be reiterated.

24. With respect to **Claim 17, Kellman et al.**, teaches and shows from figure 5, "A magnetic resonance imaging apparatus including a computer-based controller programmed to control the magnetic resonance imaging apparatus to perform the method as claimed in **claim 12**." [See figure 5, col. 1 lines 49-55, col. 7 line 24 through col. 10 line 31.] The same reasons for rejection, which apply to **claim 12**, also apply to **claim 16** and need not be reiterated.

25. With respect to **New Claim 18, Kellman et al.**, teaches and shows from figure 5, "A computer medium carrying software for controlling a computer to perform the method as claimed in **claim 12**." [See figure 5, col. 1 lines 49-55, col. 7 line 24 through col. 10 line 31.] The same reasons for rejection, which apply to **claim 12**, also apply to **claim 16** and need not be reiterated.

26. With respect to **New Claim 19, Kellman et al.**, teaches and shows from figures 1- 5, and the teachings of **column 1 line 56 through** col. 10 line 31, the limitations of wherein "determining the optimizing scan parameter set step includes determining which scan parameter set of a plurality of scan parameter sets (1) meets the target value" (i.e. the target level) for the specific scan parameter" (i.e. such as ghost noise artifacts suppression) [See **column 2 line 56 to 58; column 7 line 5 through column 8 line 10**] and optimizes at least one additional scan parameter (i.e. noise, or

scan/imaging time) [See column 1 line 56 through column 2 line 35]. The same reasons for rejection, which apply to **claim 1** also apply to **claim 19** and need not be reiterated.

27. With respect to **New Claim 20, Kellman et al.**, teaches "wherein the specific scan parameter includes one of rectangular field of view percentage, signal to noise ratio, image noise, and scan time and the additional scan parameter includes at least adjacent one of rectangular field of view percentage, signal to noise ratio, image noise, and scan time" (i.e. "scan time" is considered to be a synonymous equivalent of the time required to perform the volume imaging). [See column 7 line 1 through column 8 line 10, column 8 line 56 through column 9 line 22; column 3 line 41 through column 4 line 3.] The same reasons for rejection, which apply to **claims 1, 19** also apply to **claim 20** and need not be reiterated.

28. With respect to **New Claim 21, Kellman et al.**, teaches that the second scan parameter is scan time" (i.e. the time required to perform the volume imaging) because exhilarated imaging his reform throughout the reference. [See column 1 line 56 through column 10 line 31 where numerous examples are taught]. The same reasons for rejection, which apply to **claims 1, 10** also apply to **claim 21** and need not be reiterated.

Prior Art of Record

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Gonzalez Ballester et al., US patent application publication 2004/0070394 A1 published April 15th 2004, filed Jan. 18th 2002.

B) Gonzalez Ballester et al., US patent 6,949,928 B2 issued Sep. 27th 2005, which corresponds to **Gonzalez Ballester et al.**, US patent application publication 2004/0070394 A1 published April 15th 2004, filed **Jan. 18th 2002**.

30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Fetzner whose telephone number is: (571) 272-2241. The examiner can normally be reached on Monday, Wednesday, and Friday-Thursday from 7:00am to 2:10 pm., and on Tuesday and Thursday from 7:00am to 5:30pm.

32. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Diego Gutierrez**, can be reached at (571) 272-2245. The **only official fax phone number** for the organization where this application or proceeding is assigned is **(571) 273-8300**.

33. Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PMR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Diego Gutierrez/
Supervisory Patent Examiner, Art Unit 2831

/TAF/
November 26, 2008